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Entrepreneurship in Scotland, 1851-1911.

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Abstract

This article uses the British Business Census of Entrepreneurs (BBCE) to examine the history of entrepreneurship in nineteenth- and early twentieth-century Scotland. The BBCE identifies every business proprietor listed in the 1851-1901 Scottish censuses, correcting for non-response issues. The BBCE, therefore, allows the whole population of Scottish entrepreneurs to be examined for the first time. These data are combined with a reweighted version of the 1911 Scottish Census report to allow the trends in entrepreneurial numbers and rates to be examined as a whole and broken down by sector and gender. The article also shows how entrepreneurship varied by location. This article offers support for previous work on Scottish entrepreneurship, notably stressing the continued importance of small-scale businesses. It also reveals that female entrepreneurship rates were far higher than previously thought. This article lays the groundwork for future studies of Scottish entrepreneurship using the BBCE data.

Keywords

Entrepreneurship, census, economic history, nineteenth century, self-employed, gender

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The Scottish data used derive from Kevin Schürer and Edward Higgs, The Integrated Census Microdata, 1851-1911 (2014), UK Data Service SN: 7481, <https://doi.org/10.5255/UKDA-SN-7481-1>. A special thanks is due to Kevin Schürer for advice and help in providing advanced issue of some additional Scottish material that will be in updated versions of I-CeM.

We are also grateful to Michael Anderson and Corinne Roughley for improving the Scottish geographical coding, for identifying duplicate and spatially miscoded individuals, and for general advice on all aspects of Scottish economic and demographic history. However, the data in BBCE do not include all the further improvements they have made in identifying crofters, tenants and other categories which form part of their subsequent analysis. The GIS boundary files for parishes used in this article were derived from Corinne Roughley, Scotland's Parish Populations: parish boundaries, 1755-1891 (2019), deposited at National Records of Scotland. Thanks are also due to Philip Stickler for drawing the figures used in this article.

The nation-wide development of entrepreneurship has been a relatively neglected aspect of Scottish nineteenth century industrial history because archival resources have been unavailable at sufficient scale to give a national picture. It is already well understood that the second half of the nineteenth century saw the process of industrialization in Scotland, that had begun in the eighteenth century, continue. This involved the expansion of heavy industry and mining; first iron production and coal mining, later steel manufacture and ship building, and the eclipse of the older textile industry. However, it also saw the persistence of craft industry and other maker-dealers that have been less examined, as well as the expansion of professions, retail and distribution industries, and the spread of transport networks throughout the country.¹ The outlines of this history are well known; Scottish industrialization by large - scale businesses was driven primarily by export-oriented heavy industry based on locally accessible resources: iron ore from Lanarkshire and Ayrshire and coal from Ayrshire, Lanarkshire and its surrounding counties, Fife and Clackmannan, and Mid and East Lothian.² These readily available resources were combined with a skilled low-wage workforce and access to an extensive market in the form of the British Empire to allow the Scottish economy to expand rapidly in the second half of the nineteenth century.³ However, smaller scale businesses, and the entrepreneurship which they required, which has always been part of the historiography, has been given less consideration because of the limited sources available at the scale required across all sectors. This paper uses a new database of Scottish entrepreneurs

¹ S. Nenadic, 'Industrialization', in T.M. Devine and J. Wormald (eds), *The Oxford Handbook of Modern Scottish History* (Oxford, 2012), pp. 405-7; C.H. Lee, 'Scotland, 1860-1939', in R. Floud and P. Johnson (eds), *The Cambridge Economic History of Modern Britain, Volume II: Economic Maturity, 1860-1939* (Cambridge, 2004), p. 428.

² R.H. Campbell, *Scotland Since 1707: The Rise of an Industrial Society* (Oxford, 1965), pp. 118-27; R.H. Campbell, *The Rise and Fall of Scottish Industry, 1707-1939* (Edinburgh, 1980), pp. 5-73; A. Slaven, *The Development of the West of Scotland, 1750-1960* (Abingdon, 2006 [1975]), pp. 111-34; A. Campbell, *The Scottish Miners, 1874-1939: Volume I, Industry, Work and Community* (Aldershot, 2000), pp. 6-8.

³ T.M. Devine, 'Industrialisation', in T.M. Devine, C.H. Lee and G.C. Peden (eds), *The Transformation of Scotland: The Economy since 1700* (Edinburgh, 2005), pp. 54-5; Lee, 'Scotland', pp. 435-7; Nenadic, 'Industrialization', pp. 412-4.

to provide the first whole-population analysis of Scottish business proprietors. It describes their part in the economic history of nineteenth- and twentieth-century Scotland at a breadth and in greater detail than has been previously possible.

The standard account of Scottish economic history privileges the experience of the Central Belt and, even there, this story of economic success was accompanied by increasing inequality, underemployment and unemployment.⁴ Scotland was not just the Central Belt; instead, there were ‘multiple Scotlands’, characterised by different economies, demographic histories and social structures.⁵ Even among the large towns there was significant variation; Glasgow and Dundee were both dominated by industrial production, but where Glasgow was increasingly characterized by employment in metalworking and engineering, Dundee’s economy was focused on jute production. Furthermore, women played a greater role in the economy of Dundee than elsewhere; in 1911, 30.6 per cent of the Glaswegian workforce were female, in Dundee in the same year it was 45 per cent.⁶ In Edinburgh, manufacturing remained important, but service employment was of higher and increasing importance than elsewhere, with 10 per cent of women and 15 per cent of men employed in the professions by 1911.⁷ Beyond the major towns of Glasgow, Edinburgh, Dundee and Aberdeen, Scotland continued to have a wide range of smaller towns. Some were service and market centres, like Dumfries, others had significant industrial sectors, such as Perth or Ayr, while some were rapidly growing industrial towns, such as Coatbridge. But even though they may have had no dominant industry the smaller towns almost all had a wide range of smaller businesses in small manufacturing, maker-dealing, professions and distribution. The textile industry in

⁴ Lee, ‘Scotland’, pp. 436, 447; E. Cameron, *Impaled Upon a Thistle: Scotland Since 1800* (Edinburgh, 2010), p. 48.

⁵ M. Anderson, *Scotland’s Populations from the 1850s to Today* (Oxford, 2018), pp. 4-5; 49-76.

⁶ Cameron, *Impaled Upon a Thistle*, pp. 44-5; R. Rodger, ‘The Labour Force’, in W.H. Fraser and I. Maver (eds), *Glasgow, Volume II: 1830 to 1912* (Manchester, 1996), pp. 165-73; J. Tomlinson, *Dundee and the Empire: ‘Juteopolis’, 1850-1939* (Edinburgh, 2014), pp. 9-10.

⁷ Cameron, *Impaled Upon a Thistle*, p. 44; N. Morgan and R. Trainor, ‘The Dominant Classes’, in W.H. Fraser and R.J. Morris (eds), *People and Society in Scotland, Volume II: 1830-1914* (Edinburgh, 1990), 108-9.

Scotland was of decreasing importance, but several towns continued to have strong involvement in textile and hosiery production, such as Hawick or Galashiels. There were also an increasing number of resort towns which had a high proportion of lodgings, refreshments and distribution industries, such as St Andrews.⁸

Beyond the varied urban world, Scotland's rural regions were also diverse. In Lowland Scotland, conditions and opportunities were starkly different in the arable districts of Berwickshire and the Lothians, the arable and livestock regions in the north-east and the dairy district in the south-west. Within these broad regions there was further diversity, determined by the systems of landholding, the kinds of crop or animal farmed and proximity to markets which gave opportunities for some farm proprietors to diversify into direct selling and distribution, or portfolio farm businesses in lodgings, refreshments of agricultural processing.⁹ In the Highlands, crofting was important, but there were differences between crofters in different locations. In some places, sub-division of crofts upon inheritance continued even after the Crofters Act of 1886, elsewhere this practice stopped; in some areas fishing was a vital part of the crofting economy, in others, craft industry or other activities were essential to crofting household economies.¹⁰

The Scottish economy in the nineteenth century was, as several commentators have suggested, more varied than the large firms and heavy industry of the Central Belt, and it follows that the entrepreneurial population of Scotland was more heterogeneous than often suggested. Most studies of the Scottish economy and business history have concentrated on the proprietors of large-scale manufacturing firms.¹¹ These were usually iron or steel

⁸ R.J. Morris, 'Urbanisation and Scotland', Fraser and Morris, *People and Society*, pp.74-5,81-2; the importance of these smaller towns was longstanding, see B. Harris and C. McKean, *The Scottish Town in the Age of the Enlightenment, 1740-1820* (Edinburgh, 2014).

⁹ Cameron, *Impaled Upon a Thistle*, p. 45; Anderson, *Scotland's Populations*, pp. 24-5; R.H. Campbell and T.M. Devine, 'The Rural Experience', in Fraser and Morris, *People and Society*, pp. 46-8.

¹⁰ Anderson, *Scotland's Populations*, pp. 25-7; Campbell and Devine, 'Rural Experience', pp. 50-51 T.M. Devine, *The Scottish Clearances: A History of the Dispossessed* (London, 2018).

¹¹ The most sustained historical discussion of Scottish entrepreneurship is almost entirely concerned with the West of Scotland, and focused on the issue of innovation, Campbell, *Rise and Fall*, pp. 23-52, 164-82.

manufacturers, or shipbuilders, large textile manufacturers, such as J. & P. Coats, and large mercantile and banking concerns, especially when such firms failed as with the City of Glasgow Bank in 1878.¹² Even the *Dictionary of Scottish Business Biography*, which attempts to cover all areas of the economy and to avoid a concentration on the West of Scotland, struggles to cover all aspects of the Scottish economy. In particular, it is biased towards successful businesses because biographies require source material, which tends to be more readily to hand for individuals who ran large, successful firms.¹³ Where unsuccessful or simply unremarkable firms have been studied, it has been through case studies of particular places or trades. As a result we lack a more general picture of the place of business proprietors in Scottish economic history as a whole, regardless of their size, location or sector.¹⁴ This lacuna has been caused by the absence of suitable sources.

Two previous sources have been used to judge the general level of business activity in nineteenth- and early twentieth-century Scotland. First, bankruptcy data were used by Michael Moss and John Hume to describe how different trades and sectors varied according to the business cycle.¹⁵ Their approach was criticised by Richard Rodger, who demonstrated that the apparent relationship between bankruptcy and business activity broke down at the local level, and that the sequestration data was not representative of all businesses, but was biased towards larger concerns.¹⁶ Rodger also noted this limitation in his study of business

¹² For example, G. Morton, *Ourselves and Others: Scotland, 1832-1914* (Edinburgh, 2012), p. 133

¹³ A. Slaven and S.G. Checkland (eds), *Dictionary of Scottish Business Biography, 1860-1960* (2 vols, Aberdeen, 1986-90). For a heroic depiction of Scottish entrepreneurs, see O. Checkland and S.G. Checkland, *Industry and Ethos: Scotland, 1832-1914* (Edinburgh, 1989), pp. 14-19.

¹⁴ For case studies and other work on sectors other than heavy industry see for example, S. Nenadic, R.J. Morris and J. Smyth, 'Record linkage and the small family firm: Edinburgh, 1861-1891', *Bulletin of the John Rylands Library*, 74, 3 (1992), pp. 169-96; S. Nenadic and S. Tuckett, 'Artisans and Aristocrats in Nineteenth-Century Scotland', *Scottish Historical Review*, 95, 2 (2016), pp. 203-29; R. Mackie, 'Family Ownership and Business Survival: Kirkcaldy, 1870-1970', *Business History*, 43, 3 (2001), pp. 1-32.

¹⁵ M. Moss and J.R. Hume, 'Business Failure in Scotland 1839-1913: A Research Note', *Business History*, 25, 1 (1983), 3-10.

¹⁶ R. Rodger, 'Business Failure in Scotland 1839-1913', *Business History*, 27, 1 (1985), 75-99.

size in 1851.¹⁷ That study used the second source of data, the published information on workforce size collected by the 1851 Census. He stressed the wide range of firm sizes in mid-Victorian Scotland, as well as the fact that most businesses were small, in contrast to the usual focus on large firms. Rodger demonstrated the resilience and continued importance of many industries neglected by usual accounts of nineteenth-century Scottish economic history: such as brick making, paper manufacture, earthenware production and others. However, even here there are limitations. Rodger had to use the published census data which were only tabulated for the ‘principal burghs’, available for just one year and only covered employers, not self-employed sole proprietors.¹⁸

This article uses the recently available electronic version of the individual-level census data in I-CeM, which has been extended to include coding of entrepreneurs in the BBCE; this also includes extensive data cleaning and correction of I-CeM codings. Both sources are available through the UKDA. This allows the analysis of entrepreneurs using the census to be extended to cover all censuses between 1851 and 1901, and we also use the published tabulations to extend this analysis to 1911 which is not in I-CeM. The data include not just non-farm employers, but also farmers and self-employed own-account proprietors in all sectors (the census term used for proprietors who operated a business on their own without employing anyone else).¹⁹ It also includes the data for all of Scotland, not just the main urban

¹⁷ R. Rodger, ‘Concentration and Fragmentation: Capital, Labor and the Structure of Mid-Victorian Scottish Industry’, *Journal of Urban History*, 14, 2 (1988), 178-213.

¹⁸ Additionally, the coverage of employers was not complete, as shown for England and Wales in Bennett, R.J., Smith, H. and Montebruno, P. The Population of Non-Corporate Business Proprietors in England and Wales 1891-1911, *Business History* (2018), doi.org/10.1080/00076791.2018.1534959 and Bennett, R.J., Smith, H., van Lieshout, C., Montebruno, P., Newton, G., *The Age of Entrepreneurship: Business proprietors, self-employment and corporations since 1851*, (Abingdon, 2019) <http://doi:10.4324/9781315160375>.

¹⁹ K. Schürer and E. Higgs, *Integrated Census Microdata, 1851-1911*, (2014) [data collection], UK Data Service, SN: 7481, <https://doi.org/10.5255/UKDA-SN-7481-1>, enhanced by significant new data cleaning and recoding; see also E. Higgs, C. Jones, K. Schürer and A. Wilkinson, *Integrated Census Microdata (I-CeM) Guide*, 2nd edn (Colchester, 2015). R. J. Bennett, H. Smith, C. van Lieshout, P. Montebruno and G. Newton (2020) *The British Business Census of Entrepreneurs (BBCE)*, UK Data Service, SN: SN: 8600, <http://doi.org/10.5255/UKDA-SN-8600-2>; *User Guide*, <https://doi.org/10.17863/CAM.47126>.

areas. This article, therefore, provides the first whole-population analysis of Scottish entrepreneurship in the nineteenth and early twentieth century.

There has been extensive debate over the definition of entrepreneurship, which we have surveyed and discussed elsewhere.²⁰ In this article, and in the data underlying it, an entrepreneur is defined as any self-employed individual in business, whether they employed others or not. These were individuals who were *responsible* for assembling factor inputs in order to meet a perceived demand and organise supply. Their return on this activity took the form of profit rather than a wage.²¹ This is a broad definition focused on whole population analysis and we do not restrict entrepreneurship to those who innovated or those who employed others or to non-farmers as other studies have done. Innovators are valuable topics of enquiry in both historical and contemporary scholarship but are less relevant to whole-population analysis given the data available and the fact that even in modern studies distinguishing between innovators and other business proprietors has proved difficult.²² Furthermore, a broad definition of entrepreneurship opens up the opportunity for further scholarship comparing how particular groups of entrepreneurs, innovators for example, compared to the general population of business proprietors.

Sources and identifying entrepreneurs

Two different questions were used to identify entrepreneurs in the 1851-1911 censuses. Between 1851 and 1881 the census asked all ‘employers’ and ‘masters’ to state the size of their workforce; additionally, farmers were asked to state the acreage of their farms. The

²⁰ Bennett et al., *Age of Entrepreneurship*, 25-55. For other surveys of the literature defining entrepreneurship see I.M. Kirzner, *Perception, Opportunity and Profit: Studies in the Theory of Entrepreneurship* (Chicago: IL, 1979); H. Barreto, *The Entrepreneur in Microeconomic Theory: Disappearance and Explanation* (London, 1989); M. Casson, *The Entrepreneur: An Economic Theory*, 2nd edition (Cheltenham, 2003); W.J. Baumol, *The Microtheory of Innovative Entrepreneurship* (Princeton: NJ, 2010); S.C. Parker, ‘Entrepreneurship in Economic Theory’, *Oxford Review of Economic Policy*, 34, 4 (2018), 540-64.

²¹ Bennett et al., *Age of Entrepreneurship*, 5.

²² H.E. Aldrich and R. Waldinger, ‘Ethnicity and Entrepreneurship’, *Annual Review of Sociology*, 16 (1990), 112-13.

answers to these questions were provided in each individual's occupation descriptor, which can be extracted and coded to identify all employers and farmers and the size of their workforce.²³ A smaller group of people returned themselves as masters but gave no workforce size and these are assumed to be own-account proprietors. As noted above, not all employers answered the question and the return of own-account individuals was partial. The later censuses, 1891-1911, asked a different question. They required everyone to state whether they were an employer, own account or a worker. Thus, while the later censuses lack the firm-size data provided in the earlier years, they have a far higher rate of response and should fully identify all employers and self-employed sole proprietors.

There are some significant challenges in the data which have to be overcome before analysis. In all years, the population of entrepreneurs reported by the census suffered from non-responses, problems where individuals did not give a full occupational descriptor allowing them to be identified business proprietors. For 1891-1901 these problems can be solved by weighting those who did respond to take account of the non-responding individuals. These weights were based on the occupations, gender and relationship to the head of household of those individuals who did answer the employment status question.²⁴ The process used does not simply reproduce the distribution of employers, workers and own-account proprietors in the existing data; it also accounts for the likelihood of response for different ages, genders, occupations and location. For reasons of question design and census administration, women and children were less likely to respond to the employment status

²³ These were not identified and coded in I-CeM. The process of identification is given in Bennett, R.J. and Newton, G. Employers in the 1881 Population Census of England and Wales, *Local Populations Studies*, (2015) 29-49; see also WP 20: H. Smith, C. van Lieshout, P. Montebruno and R.J. Bennett, Robert, J. *Preparing Scottish census data in I-CeM for the British Business Census of Entrepreneurs (BBCE)* (2019) Working Paper 20, University of Cambridge, <https://doi.org/10.17863/CAM.44963>.

²⁴ The weights use a logit regression to give the probability that non-responding individuals were employers or own account based on the occupational category and demographic characteristics of those who did respond. There are 797 occupational categories provided in I-CeM, called occodes, see Higgs et al., *Guide*, pp. 163-183. For a longer discussion of the method used in Scotland see Working Paper 20, Smith et al. (2019) <https://doi.org/10.17863/CAM.44963>.

question than men and this is taken account of in the process. These methods are commonly used for post-survey modern census data processing and allow the issue of non-response biases to be managed. I-CeM does not include 1911 data for Scotland, so that year is dealt with in an entirely different manner described below.

The non-response challenge for 1851-1881 is more serious because the design of the census question led to far greater under-reporting. If we assumed that just the extracted employers (those who gave workforce numbers) were the total population of employers in 1881, then the number of employers would have increased by 134 per cent between 1881 and 1891, which is clearly unrealistic.²⁵ Additionally, the majority of own-account proprietors did not respond. These limitations can be overcome by supplementing the extracted employers to align with the later census data. This ‘reconstruction’ process is described in detail elsewhere by the authors.²⁶ For everyone except farmers, a logit regression based on the 1891 weighted data was used to distinguish between responses by workers and entrepreneurs (either employer or own account). It used the variables age, gender, marital status, relationship to the head of household, occupational category, county population density and the number of servants in the household. This generates coefficients for responses by each economically active individual in 1891.²⁷ These coefficients were then applied to the 1881 census data to generate scores for each individual to give the probability that they were an entrepreneur. These probabilities ranged between 0 and 1. Those with the highest probabilities were

²⁵ No increase of this magnitude over 10 years has been seen in any long-run statistics on business proprietor numbers anywhere in the world, see Bennett, *Age of Entrepreneurship*, 100-103. Looking at individual occupations and trades reinforces the improbable nature of this change, for example, taking the raw 1881 and 1891 census data would mean that the number of merchants employing at least one person in Scotland increased by 852 per cent in 10 years, employer ship owners by 1,933 per cent, mine owners by 1,471 per cent, and draper employers by 300 per cent.

²⁶ R.J. Bennett, P. Monteburuno, H. Smith, and C. van Lieshout, *Reconstructing entrepreneurship and business numbers for censuses 1851-81*, (2018), Working Paper 9, <https://doi.org/10.17863/CAM.37738>.

²⁷ For this purpose, the economically active were defined as all those aged 15 and over engaged in an occupation; thus, people living on their own means, students and the retired were all excluded as entrepreneurs. The number under 15 is tiny that had an occupation recorded so that resulting ratios quoted are not affected by this exclusion.

identified as the entrepreneurs to be used to supplement the non-respondents to the original census question.²⁸ Those individuals who reported their employee numbers or called themselves ‘master’ were always included. The process was then repeated to split the supplemented entrepreneurs into between employers and own-account proprietors, and then repeated for 1851, 1861 and 1871. This supplementation process allows the identification of individuals who were either definitely entrepreneurs (the extracted) or who were most likely to be entrepreneurs given their occupational responses and their demographic, location and household characteristics (the supplemented). As with the weights for 1891-1901, this method maintains the actual respondents *and* allows the issue of non-response to be dealt with in a manner that does not simply reproduce the distribution in the underlying data. This process involves assuming that the demographic and household characteristics of an entrepreneur in a particular place and particular occupation were constant over the period 1851-1891, except for the measured changes in demography and other variables that are included in the supplementation process.²⁹ While this assumption can be questioned, data over a shorter, but similar, period of time, in England and Wales for 1891-1911, has shown that these characteristics did remain sufficiently constant to provide some reassurance that this is a reasonable assumption.³⁰ It produces an estimated population of entrepreneurs for 1851-1881 which can be analysed at the aggregate and individual level, and that is aligned with the entrepreneur populations identified directly by the 1891-1901 census questions.

For farmers in 1851-1881 the census question asked for the acreage of their farms as well as their workforce size, as noted above. This information allows those farmers who were

²⁸ This was applied to each of the occupational categories separately, each of which had a different cut-off above which entrepreneurial status was assigned. The cut-off used was either that which best predicted the actual 1891 numbers of entrepreneurs in that occupational category, or the cut-off which gave a total closest to the number of entrepreneurs in that occupational category if the 1891 ratio of entrepreneurs to workers was applied to the 1881 data: see R.J. Bennett, P. Montebruno, H. Smith, and C. van Lieshout, *Reconstructing business proprietor responses for censuses 1851-81: a tailored logit cut-off method*. (2019), Working Paper 9.2, <https://doi.org/10.17863/CAM.37738>

²⁹ It does not require assuming that the *proportion* of entrepreneurs in any trade remained constant.

³⁰ Bennett et al., *Age of Entrepreneurship*, 139-60.

employers, but failed to give workforce numbers, to be identified using their acreage where it was too large to be worked without employing at least one worker (including family). Again, a logit regression for those farmers giving both workforce and acres was used to separate those farmers giving only acres into employers and own account using a parish-specific cut-off.³¹

While the individuals identified by these methods to overcome the changing census questions and non-response issues can be no more than estimates, they are believed to be robust, fit with other secondary analyses, preserve all the detail given by census respondents, and surmount the otherwise fatal limitation that the census process did not otherwise adequately identify proprietors. The individual-level data after this supplementation have been deposited in the BBCE at the UK Data Archive as the variable EMPLOYSTATUS_IND and are available for researchers to use and manipulate so that alternative methods can be developed if users desire. This also allows users to correct some I-CeM mis-codings using BBCE downloads; e.g. for occupations.

In all of the processes used to overcome the issues with the data in the raw census we have relied, at base, on the self-reported responses given by the individuals at the time. In addition to problems of non-response, however, the responses given may themselves have been inaccurate. Notably the definition of own-account proprietor is difficult. Some individuals worked both on their own account and as employees for other people.³² The census did not acknowledge this possibility in the questions and it was rarely included by respondents. However, there remains a distinction between an individual who was solely reliant on waged labour and someone who ran a small business on their own account while

³¹ The method was developed for England and Wales in P. Montebruno, R.J. Bennett, C. van Lieshout, and H. Smith, Shifts in agrarian entrepreneurship in mid-Victorian England and Wales, *Agricultural History Review*, 67(1), (2019), 71-108; it is extended to Scotland as reported in Working Paper 20.

³² C.R Littler, *The Development of the Labour Process in Capitalist Societies: A Comparative Study of the Transformation of Work Organization in Britain, Japan and the USA* (London, 1982).

also undertaking some waged labour or sub-contracting. Thus, while the tripartite distinction between employer/own account/worker flattens out some nuances of the organisation of the economy in this period, it still allows the most important distinction between those who worked mainly for wages and had to accept the wages and working conditions on offer, and those who had a degree of control over prices and working conditions: in other words between workers and entrepreneurs.³³ The other issue concerns portfolio businesses, where entrepreneurs worked in two or more separate fields. This is recoverable from the census responses in many cases and affects around 10 percent of entrepreneurs. Portfolios are not analysed here but the issue in England and Wales has been discussed in depth by the authors elsewhere.³⁴

The use of census data also restricts us to a cross sectional view of the Scottish economy every ten years and means that inter-census changes are difficult to examine. However, while these data cannot examine inter-census change, they do offer unparalleled coverage of place and sector in each census year. Furthermore, these data allow long-term trends to be identified; this is particularly useful when considering nineteenth-century entrepreneurship because of the considerable churn in business numbers and proprietorship in this period. Year-on-year figures of entrepreneurs can make longer-term trends more difficult to discern, and the general trends presented below will contextualise any short-term shocks and cycles.

This paper is intended to provide an overview of the Scottish economy as revealed by the data on proprietorship. Entrepreneurship is a measure of economic structure rather than economic performance. It reveals how the balance between labour and capital changed over time in different places and different sectors. It is not concerned with economic output nor

³³ For more on this issue see Bennett et al., *The Age of Entrepreneurship*, 22-23.

³⁴ Bennett et al., *Age of Entrepreneurship*, ch. 11.

growth more generally. The analysis complements measures of output. Furthermore, the entrepreneurship data are available at a finer geographical level than other economic statistics and offer individual-level data, unlike many other Scottish economic statistics. It is hoped that this overview and the data it is based on, which are freely available, will stimulate other studies of topics such as how output and entrepreneurship interacted, and case studies of particular places, sectors and times.³⁵

The remainder of this article analyses the entrepreneur population, first by examining the aggregate totals and entrepreneurship rates, broken down by gender and sector. We then consider the geographical distribution of entrepreneurs, and how this changed over time. The Scottish entrepreneurs are throughout compared to English and Welsh counterparts, and the article concludes with a discussion of the implications of these data for future studies of the Scottish and British economy.

Trends, 1851-1911

Figure 1 shows the total number of employers, own-account proprietors, entrepreneurs and workers between 1851 and 1911. The 1911 census is not present in I-CeM or BBCE and so the individual-level data are missing. However, the 1911 published census report tabulated the number of entrepreneurs and workers by occupation. These tabulations are used below to include 1911 in the aggregate analysis despite the absence of individual data.³⁶

The total number of entrepreneurs increased fairly steadily across this period. However, own account numbers increased 1851-71, dipped slightly in 1881, before rising

³⁵ The BBCE data are available from the UK Data Service, see R.J. Bennett, H. Smith, C. van Lieshout, P. Montebruno and G. Newton, *British Business Census of Entrepreneurs, 1851-1911* [data collection], UK Data Service, SN:8600, <http://doi.org/10.5255/UKDA-SN-8600-2>; and Guide if available at: <https://www.bbce.uk/resources/>.

³⁶ There were non-respondents in 1911 which the report lists, as well as workers, employers and own account. The 1901 data were used to allocate the non-respondents to the appropriate employment status. The details of the method are given in Working Paper 20.

again to a peak in 1901, followed by a decline to 1911. Employers increased between most census years, save for 1891 when the number dipped slightly. These changes were mirrored in England and Wales, where numbers also generally increased 1851-1901, own-account proprietors there also peaked in 1901, while employers increased steadily 1851-1911. This, in large part, reflected population growth which is included automatically by the data containing all census respondents. While slower in Scotland than in England and Wales, increased population also increased both the demand for businesses and the supply of potential entrepreneurs. The fall in own-account proprietors after 1901 was caused mainly by the fall in the number of female entrepreneurs in maker-dealer trades, especially dressmaking. This was driven by

Figure 1. Number of employers, own account and workers, 1851-1911.
Source: BBCE and I-CeM.

Figure 2. Entrepreneurship rate, Scotland and England and Wales, 1851-1911.
Source: BBCE and I-CeM.

mechanisation, concentration of production in larger units and by the slow emergence of an increasingly integrated national market.³⁷

Figure 2 shows the entrepreneurship rates for 1851-1911. This is the number of entrepreneurs per 100 economically active individuals. The rates for England and Wales are included for comparison.³⁸ Scottish entrepreneurship rates fell over the period, steadily from 1861 to 1881, before rising slightly in 1891, and then continuing to fall 1891-1911. This was

³⁷ C. Van Lieshout, H. Smith, P. Montebruno and R.J. Bennett, 'Female entrepreneurship: business, marriage and motherhood in England and Wales, 1851-1911', *Social History*, 44, 4 (2019), pp. 440-468.

³⁸ The England and Wales 1871 census is not included in I-CeM, so the rate for that year cannot be included in this figure.

the same pattern as found in England and Wales and was likely driven by similar factors in both locations. Entrepreneur numbers rose throughout the period, but worker numbers increased more rapidly, leading the entrepreneurship rate to fall; this pattern of economic change reflected increased concentration, the additional workers were being employed by businesses which were growing in size; business numbers were not themselves increasing at the same rate.

While the Scottish entrepreneurship rates followed a similar pattern to England and Wales, Scotland's rates were consistently higher. Thus, in terms of businesses per economically active individual, Scotland was more entrepreneurial in this period than England and Wales. This is not affected by the exclusion of under 15, which was identical between the two countries and was in any case too small to affect these aggregate trends. There are a number of reasons why this was the case. First, wages in Scotland were lower than in England and Wales throughout this period, and unemployment and underemployment was also more common.³⁹ These factors contributed to the high rates of emigration; the Scottish economy did not have the capacity to provide employment to all who needed it, and thus many left the country. However, emigration was not the only option for individuals struggling to enter the waged labour market, they could also start a business. Self-employment (all entrepreneurs), therefore, was higher in part because waged opportunities were less common than in England and Wales. Wages in Scotland improved somewhat towards the end of this period, driving part of the drop in the entrepreneurship rate, but the fact that the rate remained substantially higher in Scotland in 1911 than in England and Wales suggests that arguments that a high wage economy developed in this period in Scotland's Central Belt are partial at best.⁴⁰ In 1901 the entrepreneurship rate in the Central

³⁹ Lee 'Scotland', pp. 435-6; T.C. Smout, *A Century of the Scottish People, 1830-1950* (London, 1986), pp. 109-14.

⁴⁰ c.f. R.H. Campbell, *Rise and Fall*, pp. 80-92; E.H. Hunt, *Regional Wage Variations in Britain, 1850-1914* (Oxford, 1973), pp. 50-53 and R. Rodger, 'The Invisible Hand: Market Forces, Housing and the Urban Form in

Belt was 11.8, compared to 10.6 in Lancashire, suggesting that the wage increases were not evenly spread, or sufficient to reduce the incentives driving Scots to start businesses to a level similar to that in industrial England.

Secondly, the entrepreneurship rate in England and Wales was also driven down by the growing integration of the national market. Rural areas increasingly needed fewer businesses to function because goods and services could be purchased elsewhere and transported to increasingly remote location, or branches of national chains replaced local independent businesses. This caused the entrepreneurship rate in rural locations to fall.⁴¹ The Scottish transport system developed considerably during the nineteenth century.⁴² However, it did not attain the density of rail and road access achieved in England and Wales. This led to different rural entrepreneurial experiences. Between 1851 and 1901 the entrepreneurship rate of rural England and Wales rose from 17.5 to 20.9 and the occupational diversity also rose slightly from an average of 52 entrepreneurial occupations per Registration Sub-District to 58.⁴³ In contrast, in the West Highlands and Islands, the entrepreneurship rate rose from 24.9 to 32, and the number of entrepreneurial occupations per parish rose from 26 to 38. These larger increases in both measures of entrepreneurial activity, suggest that rural settlements in Scotland required proportionately more businesses than in rural England and Wales, probably because of their comparative remoteness, and given their low worker populations, such places tended to have very high entrepreneurship rates. The different degrees of national integration, which is highlighted by rural aspects, was alone an important contribution to the generally higher rates found in Scotland compared to England and Wales.

Victorian Cities', in D. Fraser and A. Sutcliffe (eds), *The Pursuit of Urban History* (London, 1980), pp. 190-211.

⁴¹ Bennett et al. *The Age of Entrepreneurship*, pp. 218-50.

⁴² W. Vamplew, 'Railways and the Scottish Transport System in the Nineteenth Century', *Journal of Transport History*, 1, 3 (1972), pp. 133-45.

⁴³ Definition of the rural areas are given in working paper 20; definition of all occupations and aggregations are given in working paper 5.

Sector and gender trends, 1851-1911.

The general rates discussed above are revealing, but still hide much. This section breaks them down by sector and gender; doing so expands upon the explanation for Scotland's particular entrepreneurial landscape given above. Figure 3 shows the aggregate totals for 13 entrepreneurial sectors.⁴⁴ Farming and other agricultural entrepreneurs were the largest sector throughout the period, accounting for one third of entrepreneurs in 1851, and while they were proportionately less important at the end of the period, they still made up 22 per cent of the total entrepreneurial population in 1911. The large increase in farming entrepreneurs between 1881 and 1891 was driven by substantial increases in the number of crofters returned as employers or own-account proprietors, and a smaller but still large increase in entrepreneurial fishermen. Some of the changes of numbers of crofting reported in census publications and in BBCE/I-CeM may have derived from different census administrative and publication practices.⁴⁵ In 1891, 87 per cent of crofters were returned as entrepreneurs; in 1881 the supplemented data gives just 36 per cent of crofters as entrepreneurs. Part of this was likely real; the Crofters Act of 1886 seems to have prompted more people to describe themselves as crofters, who may previously have been returned in the census as small farmers, tenants or even agricultural labourers. Many of these new crofters would have been self-employed. However, it is likely that the degree of change is partly over-stated and that the number of farming entrepreneurs in 1851-1881 was higher than given in figure 3, but the supplementation method has not fully accounted for this, and consequently that the real trend in the self-employed in agriculture was fairly flat 1851-1891 before a fall beginning at the turn of the twentieth century. This fall reflected increasingly difficult market conditions and

⁴⁴ Definitions of these sectors are given in R.J. Bennett, H. Smith, C. van Lieshout, and G. Newton, *Business sectors, occupations and aggregations of census data 1851-1911*, (2017) Working Paper 5, <https://doi.org/10.17863/CAM.9874>.

⁴⁵ See Working Paper 20. Future more detailed research focuses on the case of crofters in particular.

the decline in long leases.⁴⁶ These changes were accompanied by a steadily falling agricultural workforce; over 230,000 people were employed in agriculture in 1851, this had fallen to 167,000 in 1911. Scottish farmers were less affected than their English and Welsh counterparts by the agricultural depression of the 1870s and 1880s, as the existing literature has noted. This reflected the lesser importance of wheat in Scottish agriculture. There was a similar move away from arable production in Scotland, but this was the growth of an already important practice, rather than a shift from arable to pasture in response to price drops, as happened in England and Wales.⁴⁷ Scottish farmers, therefore, were better placed than English and Welsh ones to take advantage of the growing living standards and demand for meat and dairy, and the developments in agricultural technology. This allowed Scottish farmer numbers to remain fairly stable throughout the period, even as farm labourer numbers dropped sharply. Even if farming was in long-term decline, those farmers who did survive were increasingly able to manage larger farms profitably with fewer employees.⁴⁸

Figure 3. Number of entrepreneurs by sector, 1851-1911.

Source: BBCE and I-CeM.

The second largest sector was maker-dealing, a sector that has received little comment from historians. This sector, which encompassed clothes production, blacksmithing, watch making, skinning, chemists and tobacco production and retail, was the largest sector throughout this period in England and Wales. It is likely that the lower wages and standard of living in Scotland noted by other historians explains why the sector was smaller than in England and Wales. Figure 3 shows that this sector was fairly stable across the period. The

⁴⁶ Devine and Campbell, 'Rural Experience', p. 61.

⁴⁷ Campbell, *Scotland Since 1707*, pp. 276-85; R. Perren, *Agriculture in Depression, 1870-1940* (Cambridge, 1995).

⁴⁸ There were 49,996 employer and own-account farmers in 1851, this had fallen to 39,100 by 1901, compared to a fall in agricultural labourers from 146,045 in 1851 to 93,993 in 1901.

majority of trades in this sector involved producing and selling consumer goods. Given the slower rate of population growth in Scotland and the lower wages compared to England and Wales it is likely that existing firms were able to cope with the increased demand for clothes and other consumer goods created by the slowly growing population and increasing wages across this period and, consequently, the sector did not need to grow. This is not to say that the firms in dressmaking or watchmaking were long-lived, most were not, but rather that new firms replaced existing ones, and thus the overall number of firms remained fairly stable even as there was considerable churn in the firms which made up this sector. The drop after 1901 was caused in large part by a fall in the number of entrepreneurial dressmakers. There were nearly 20,000 employer and own-account dressmakers in 1901, but fewer than 14,000 in 1911. This drop mirrored one that happened in England and Wales, which was also driven by a fall in the number of dressmakers caused by increased mechanisation, notably the spread of sewing machines, and concentration, which saw employers enlarge their businesses and own-account proprietors forced out of business and into waged employment in the dressmaking trade.⁴⁹ The pattern in change in maker-dealers was not geographically constant; for example, the number of entrepreneur blacksmiths increased between 1891 and 1901 in Glasgow but fell in Edinburgh and Dunfermline. The increase in Glasgow, unsurprisingly, reflects the continuing growth of heavy industry in that city, but the falls in Edinburgh and Dunfermline had different cause. That in Edinburgh derived from its growing specialisation as a commercial and professional centre, whereas in Dunfermline blacksmiths were increasingly likely to be employed in linen businesses rather than running their own firms.

Manufacturing rose steadily between 1851 and 1881 before accelerating after that. In part this trend reflects the traditional historiography of the Scottish economy, seeing the

⁴⁹ Bennett et al. *The Age of Entrepreneurship*, pp. 94-9. Wendy Gamber, *The Female Economy: The Millinery and Dressmaking Trades, 1860-1930* (Chicago, IL, 1997), 158-228.

emergence of new heavy industries in iron and steel production and shipbuilding. Thus, iron founders were the 40th most common entrepreneur in 1851, 24th in 1881, 14th in 1891, and 7th in 1901. However, these new industries were employing a significantly larger proportion of the workforce in larger firms. In 1851 machine-making, iron and steel production and shipbuilding accounted for around 9.7 per cent of the manufacturing workforce, and only 13.9 per cent of Scotland's industrial entrepreneurs. By 1901, they made up 20.1 per cent of entrepreneurs, but 32 per cent of the manufacturing labour force. This is also reflected in the decline in number of companies in iron making from 30 to 10 over 1871-1911.⁵⁰ However, as others have pointed out, the emergence of iron, steel, and shipbuilding can obscure the continued importance of other industries.⁵¹ In 1851, 63.7 per cent of manufacturing employers and own-account proprietors were in textile or clothing manufacture with 66.2 per cent of the manufacturing workforce. By 1901, these figures had fallen but textiles remained important, accounting for 45.6 per cent of the entrepreneurs and 30.8 per cent of the workers involved in manufacturing. Other industries which are little discussed in the historiography of industrial Scotland, also remained significant. Cabinet makers were consistently among the most common entrepreneur manufacturing occupations throughout this period, and furniture making in general grew steadily. There were 970 entrepreneurs involved in 1851, and 2,330 by 1901, with another 1,081 in wood working. Similarly, printing remained an important industry, with 434 businesses in 1851 rising to 2,277 in 1901. As Rodger pointed out, these other industries were not simply throwbacks to a pre-modern economy, but important industries in their own right, employing substantial numbers and producing valuable goods, as the history, for example, of the Scottish publishing industry, which employed nearly 30,000 people in 1901, demonstrates.⁵²

⁵⁰ Inland Revenue, *14th Annual Report*, (London, 1871); *54th Annual Report* (London, 1911).

⁵¹ Nenadic, 'Industrialization', pp. 405-7.

⁵² Rodger, 'Concentration and Fragmentation', p. 191; B. Bell (ed.), *The Edinburgh History of the Book in Scotland, Volume 3: Ambition and Industry, 1800-1880* (Edinburgh, 2007), pp. 79-122; D. Finkelstein and A.

Food sales was the next largest sector and increased steadily over this period. Given that this period saw population growth this is perhaps unsurprising. However, the maker-dealer sector did not grow steadily in this period, as noted above, so such growth in consumer goods-based sectors was not inevitable. The expansion of food sales was not just about population growth and rising living standards; it also involved product innovation as new goods were sold and consumed by a wider section of the population. Thus, in the grocery trade, removal of duty on tea in 1870, increasing wages and the falling price of sugar and other imported goods led to expansion. Not only did grocers sell more of the goods they had always sold, they also dealt in new products, such as margarine, and mass-produced versions of previously homemade goods, such as jam.⁵³ Such product innovations allowed food sales to steadily expand, in a way which maker-dealer trades could not. Again, there was geographical variation in these trends. For example, between 1891 and 1901 the number of entrepreneur provision dealers fell in all the largest towns as chain stores grew in importance but their numbers remained stable in smaller towns such as Annan, Elgin and Kirkcudbright that reflected the slower creation of a national market in Scotland and the importance of smaller towns as centres for the surrounding countryside.

Similar arguments can be made about the development of other retailing, personal services and professional and business services. These three sectors all expanded through a combination of product innovation, population growth-driven demand and changes in the organisation of the trades. Thus, in retail much of the expansion came with the growth of drapers, driven by population growth, and in stationers and newsagents, where the expansion of the reading public went hand-in-hand with technical innovations to create a greater demand for printed goods of all kinds and also the frequency of travel, especially on trains.⁵⁴

McCleery (eds), *The Edinburgh History of the Book in Scotland, Volume 4: Professionalism and Diversity, 1880-200* (Edinburgh, 2007), pp. 54-70.

⁵³ J.B. Jeffreys, *Retail Trading in Britain, 1850-1950* (Cambridge, 1954), pp. 127-31.

⁵⁴ Jeffreys, *Retail Trading*, pp. 281-2.

Whilst small retailers were under challenge from larger business with branches and cooperative stores, even in urban communities, but especially in more isolated areas, small sole-proprietor operations were clearly holding their own until the end of the century.⁵⁵ In the professions, expansion in the number of firms came both through the growth of traditional occupations, such as medicine and the law, and through the growth of new business activities, notably accountancy, specialist engineers and surveyors, and the occupations which facilitated the urban property market: auctioneers, estate agents and house factors.⁵⁶

Construction saw business proprietor numbers rise to a peak in 1881 before falling and then rising again. The construction industry in Scotland was particularly volatile, more so than in England and Wales, where the number of entrepreneurs rose steadily from 1851 to 1911.⁵⁷ The peak in 1881 and sharp decline fits with the known history of the Scottish building industry. There was a boom in construction in the early 1870s, followed by a sharp collapse of the market in 1877-8. The boom meant that the market was oversupplied with firms, and while many of these went bust in the late 1870s, it took some time for the overcapacity to disappear.⁵⁸ The subsequent comparative stability of the number of construction entrepreneurs supports the argument that the shock of the late 1870s weeded out weaker firms and left builders who were more aware of fluctuating market conditions and able to avoid overproduction and the kind of crash seen in the late 1870s.⁵⁹

⁵⁵ M. Purvis, 'Societies of consumers and consumer societies: co-operation, consumption and politics in Britain and continental Europe, c. 1850-1914', *Journal of Historical Geography*, 24, 2 (1998), 147-69; D.C.H. Watts, 'Building an alternative economic network? Consumer cooperation in Scotland from the 1870s to the 1960s', *Economic History Review*, 70, 1 (2017), 143-70.

⁵⁶ S.P. Walker and T.A. Lee (eds), *Studies in Early Professionalism: Scottish Chartered Accountants, 1853-1918* (New York, NY, 1999); R. Rodger, *The Transformation of Edinburgh: Land, Property and Trust in the Nineteenth Century* (Cambridge, 2004), 71-2; D. Sim, 'The Scottish house factoring profession', *Urban History*, 23, 3 (1996), 351-71.

⁵⁷ R. Rodger, 'Structural instability in the Scottish building industry, 1820-80', *Construction History*, 2 (1986), 48-60.

⁵⁸ Rodger, 'Business Failure', pp. 90-91; J. Carroll, M.S. Moss and I.F. Russell, 'D'une brique l'autre: Naissance et mort d'entreprises du bâtiment, Glasgow, 1875-1879', in M.S. Moss and P. Joubert (eds), *Naissance et mort des entreprises en Europe, XIXe-XXe siècles* (Dijon, 1995), pp. 179-94.

⁵⁹ Rodger, 'Business Failure', p. 80.

The refreshment sector was fairly stable up to 1891, before rising to a high point by 1911. However, the relative stability of the sector masked significant changes in its composition. The number of lodging house keepers grew from just over 4,000 in 1861 to 5,230 in 1901; however, the number of innkeepers fell from 3,446 in 1851 to 2,841 in 1901. Edinburgh was notable in having far more entrepreneurial lodging house keepers than any other town, in 1901 it had 1,372, the next highest was Glasgow which only had 595. Not only did it have more, the number was increasing more rapidly than elsewhere, thus it rose from 982 to 1,372 in Edinburgh between 1891 and 1901 while in Glasgow the number only increased by 83 from 512 to 595. This reflected the importance of Edinburgh as an administrative and political centre, an importance that was growing over time. The number of spirit and wine merchants also dropped considerably from 4,523 entrepreneurs in 1851 to 3,702 in 1901. Given the population continued to grow, this suggests the wine and spirit trade consolidated somewhat during this period. The wine and spirit trade interacted with the production of alcohol, which is included in the agricultural produce sector that was broadly stable throughout the period. Some aspects of this sector have received study in a Scottish context, notably whisky production, but much remains unexamined.⁶⁰ However, again there were intra-sector changes as the numbers of entrepreneurs involved in grain milling and grain dealing declined, following the changes in Scottish agriculture, and the numbers involved in distilling and brewing increased.

Finance and commerce was fairly stable across the period, rising somewhat between 1851 and 1871 and then maintaining a similar size until the end of the period. Once again, however, there were some notable internal changes. The number of merchants increased to 1881 and then fell, while the number of brokers and other commercial entrepreneurs steadily

⁶⁰ John R. Hume and Michael S. Moss, *The Making of Scotch Whisky: a History of the Scotch Whisky Distilling Industry*, 2nd edn. (Edinburgh, 2000)

increased. Given that the volume of internal and external trade increased over this period, this suggests that the mercantile sector was concentrating, with larger commercial firms squeezing out some general merchants who then either left the sector or formed other firms undertaking more specialist commercial activity.⁶¹ It also likely reflects the growing integration of Scottish merchants into the United Kingdom, with some now serving Scotland from London.

The final two sectors, mining and transport, are the two sectors in which incorporation was present at a high degree from an early time. While the census is the most complete source available on non-corporate entrepreneur numbers, its coverage of incorporated businesses and their directors is less complete than for unincorporated firms. Consequently, the trends given in Figure 3 for these two sectors are incomplete; however, they still reveal something of interest. Mining proprietor numbers rose slowly 1851-1891, peaked in 1901, and fell in 1911. While coal mining was a key part of the Scottish economy, as a sector it was characterised by small firms compared to England and Wales. The peak in 1901, therefore, represents the highest point for these small-scale mines, before the economic pressures of the twentieth century pushed them towards concentration.⁶² In terms of companies, there were 612 in 1871, this concentrated into 278 firms by 1901, and 209 in 1911.⁶³

In transport, the number of entrepreneurs increased slowly over the period, with a slight dip in 1891. This is in line with the spread of transport and its increasing importance to the overall Scottish economy.⁶⁴ Within this sector, however, some occupations declined and other increased in importance. The number of carmen running their own business fell across this period, but the balance within that occupation between employers and own-account

⁶¹ Devine, 'Industrialisation', p. 56-7;

⁶² Campbell, *Scottish Miners*, I, pp. 26; 32-5; C.H. Lee, *Scotland and the United Kingdom: The Economy and the Union in the Twentieth Century* (Manchester, 1995), p. 30.

⁶³ Inland Revenue, *14th Annual Report*; *44th Annual Report* (London, 1901); *54th Annual Report*.

⁶⁴ W. Vamplew, 'Railways and the Transformation of the Scottish Economy', *Economic History Review*, 24, 1 (1971), pp. 37-54; Vamplew, 'Scottish Transport'.

proprietors shifted. In 1851, 11.6 per cent of carmen entrepreneurs were employers, in 1901 29 per cent were, indicating significant concentration, with sole proprietors being pushed out and entering waged employment for expanding employers. This reflected the changing position of carters and carriers in Scotland, their long-distance inter-region function declined as the railways spread, but remained important for transport of goods within localities in a complementary relationship with the spreading railways.⁶⁵ Over the period 1871-1911 the number of Scottish railway companies remained the same at 20, while in England and Wales there was a small increase from 109 to 129.⁶⁶ However, in both cases their workforces greatly increased reflecting consolidation of long- and medium-distance trade into the rail network. In contrast, the number of entrepreneurs in the merchant marine increased over this period, there were over 900 more entrepreneurs in the sub-sector in 1901 compared to 1851, reflecting Scotland's growing export trade.

Some of these sectors mirrored the developments occurring in England and Wales: Scottish retail, personal services, transport, professional and business services, finance and commerce, agricultural produce, food sales, and manufacturing all follow trends similar to those found in England and Wales. Mining grew more slowly than in England and Wales, where there was no peak in 1901; instead, English and Welsh mining entrepreneurs consistently increased in numbers from 1851 to 1911. Construction was more volatile for reasons noted above; agriculture was more stable than in England and Wales, reflecting the fact the agricultural depression had less effect in Scotland; and finally, maker-dealers were relatively stable in Scotland, whereas they increased significantly in England and Wales, although in both countries their numbers dropped after 1901. In all cases, however, the trends reflected the particular organisation of the sectors themselves. The number of entrepreneurs

⁶⁵ A.S. Morris, 'The Nineteenth Century Scottish Carrier Trade: Patterns of Decline', *Scottish Geographical Magazine*, 96, 2 (1980), pp. 74-82; K.L. Moore, 'Carrier Routes in the Northeast of Scotland 1803-1914: Development and Change in a Service', *Scottish Geographical Journal*, 119, 4 (2003), pp. 325-40.

⁶⁶ Inland Revenue, *14th Annual Report*; *54th Annual Report*.

in manufacturing increased, but not as rapidly as in other sectors, such as personal services. This was because in manufacturing much of the growth was driven by existing businesses expanding and concentration, while in personal services growth was achieved by the creation of additional small firms. Entrepreneurship, therefore, is not a measure of economic performance, but rather a measure of economic structure, reflecting the distribution of capital, the availability of waged labour, the level of wages and other factors. It is also important to note the continued resilience of many industries and trades often ignored in the historiography; for example, in furniture making and printing, which in 1901 had 4,607 business proprietors employing over 44,000 people.

Table 1 gives the gender breakdown of entrepreneurs in Scotland between 1851 and 1901, figure 4 gives the numbers of female workers, employers and own-account proprietors, and figure 5 shows the sectoral breakdown of female entrepreneurs for the same period.⁶⁷ The proportion of female entrepreneurs is fairly stable across the early period, rising at the end towards in 1891 and 1901. This pattern is similar to that found for England and Wales. In England and Wales the proportion of entrepreneurs that were female fell after 1901 as the number of entrepreneurs in maker-dealing trades declined, especially in dressmaking. It is likely that if we had comparable data for 1911 in Scotland a similar fall would be observed. The figures given here are higher than previous estimates of Scottish female entrepreneurship because those estimates have either been based on sources which under-estimate female business activity, such as trade directories, or have used the census but not corrected for the non-response issues discussed earlier. Those issues particularly affected women so that failing to address them means greatly under-estimating the level of female

⁶⁷ Given the uncertain nature of the attribution of the non-responses reported in the 1911 census report the aggregate totals used in figure 1-3 have not been broken down by gender.

entrepreneurship.⁶⁸ These figures mean Scotland had similar levels of female entrepreneurship to that found in studies of Belgium, Germany and Canada.⁶⁹

	<i>Female</i>	<i>Male</i>	<i>Total</i>	<i>% Female</i>
1851	56,873	150,623	207,496	27.4
1861	60,161	159,195	219,356	27.4
1871	63,357	166,862	230,219	27.5
1881	61,901	176,374	238,275	26.0
1891	76,389	184,816	261,205	29.2
1901	91,632	203,502	295,134	31.0

Table 1. Entrepreneur numbers by gender, 1851-1901.

Source: BBCE and I-CeM.

Note: In each year a small number of entrepreneurs have unknown gender in I-CeM and they are not included in this table.

Figure 4. Female employers, own account and workers, 1851-1901.

Source: BBCE and I-CeM.

Figure 4 shows that women were rarely employers in this period. This was also the case in England and Wales; however, the Scottish situation was more extreme. In England and Wales, employers made up between 9 and 20 per cent of all female entrepreneurs; in Scotland employers were between 5 and 8 per cent of all entrepreneurs in 1851-91, rising to 11 per cent in 1901. Female employers were also a smaller proportion of all employers in Scotland. Thus, in England and Wales female employers were between 9 and 14 per cent of

⁶⁸ Compare these figures with S. Nenadic, 'Gender and the rhetoric of business success: the impact of women entrepreneurs and the "new woman" in later nineteenth-century Edinburgh', in N. Goose (ed.), *Women's Work in Industrial England: Regional and Local Perspectives* (Hatfield, 2007), 271, and E. Gordon and G. Nair, 'The economic role of middle-class women in Victorian Glasgow', *Women's History Review* 9 (2000), pp. 798-804.

⁶⁹ B. Craig, *Women and Business since 1500: Invisible Presences in Europe and North America?* (Basingstoke, 2016), pp. 118, 122; M. Buddle, 'The Business of Women: gender, Family, and Entrepreneurship in British Columbia, 1901-1971' (University of Victoria, Ph.D. thesis, 2003), p. 48.

all employers, but in Scotland they were 4 to 5 per cent of all employers between 1851 and 1891, rising to 10 per cent in 1901.⁷⁰ Female entrepreneurs were, therefore, important to the Scottish economy, but were more concentrated in own-account proprietorship and likely therefore to be more precarious than in other countries.

Figure 5 shows the sector breakdown of female entrepreneurs. Here the dominance of maker-dealers is stark, they made up between 27 and 33 per cent of all female entrepreneurs in each year. However, in England and Wales, 39 to 41 per cent of all female entrepreneurs were in maker-dealing. Scottish female business proprietors were more likely to be in farming and manufacturing than their English and Welsh counterparts. The difference in farming arose from the crofting system; indeed, in 1891 crofting was the second most common occupation held by a female entrepreneur. In manufacturing, the continued resilience of textile production and the fact that own-account proprietorship was common in those industries, especially outside of the Central Belt, meant that women were more prominent in these trades than in England. The trends in female maker-dealing, manufacturing, food sales, retail, farming, personal services and refreshment generally followed the overall trend for these sectors in Scotland. Figure 5 also shows that, as in England and Wales, few women ran businesses in mining, construction, transport, professional and business services, agricultural produce or finance and commerce, as the existing literature on Scottish female entrepreneurship has suggested.⁷¹

Although, maker-dealing was relatively less important to female entrepreneurship in Scotland compared to England and Wales, dressmaking remained a common occupation for female business proprietors; in 1891, 25.6 per cent of female entrepreneurs were

⁷⁰ C. Van Lieshout, H. Smith and R.J. Bennett, 'Female Entrepreneurship in England and Wales, 1851-1911', in J. Aston and C. Bishop (Eds.), *Female entrepreneurs in the long nineteenth century, a global perspective* (London, 2020).

⁷¹ Nenadic, 'Gender', p. 271; D. Simonton, 'Work, Trade and Commerce', in L. Abrams (ed.), *Gender in Scottish History since 1700* (Edinburgh, 2006), pp. 206-11.

dressmakers, the next most common occupations, all of which made up 5 per cent of all female entrepreneurs, were crofter, lodging house keeper, laundress and grocer. In all, the ten most common female entrepreneurial occupations in 1891 made up 65 per cent of all female entrepreneurs, for men in the same year the ten most common occupations accounted for 52 per cent of entrepreneurs. This concentration in a smaller range of trades was typical of female entrepreneurs everywhere in the nineteenth century.⁷²

Figure 5. Number of female entrepreneurs by sector, 1851-1901.
Source: BBCE and I-CeM.

The sectoral and gender breakdowns suggest that in many respects Scottish entrepreneurship was similar to the patterns seen in England and Wales and elsewhere in the nineteenth century. Despite the emergence of new forms of heavy industry, older, workshop-based trades remained important both in terms of the number of entrepreneurs and the numbers of workers employed in those trades. They also suggest that Clive Lee was correct in arguing that the service sector was smaller in Scotland than in England and Wales.⁷³ In 1891 34 per cent of Scottish entrepreneurs were working in retail, professional and business services, personal services, food sales, refreshment and finance and commerce, compared to 44 per cent in England and Wales. In part, this difference reflected the fact that female Scottish entrepreneurs were more likely to work in manufacturing than their English and Welsh counterparts. These Scottish women were probably in more precarious positions than female entrepreneurs elsewhere, but, as with the overall sectoral breakdowns discussed above, this reflected more the structure of those industries and the structure of the economy generally than the entrepreneurial spirit amongst the Scottish population.

⁷² Craig, *Women and Business* pp. 108-9.

⁷³ C.H. Lee, 'Modern Economic Growth and Structural Change in Scotland: The Service Sector Reconsidered', *Scottish Economic and Social History*, 3, 1 (1993), 5-35.

Geography

The individual-level data present in I-CeM allow various aspects of entrepreneurship to be mapped. Figure 6 shows the entrepreneurship rate by parish for 1891 and 1851. As noted by the authors elsewhere, mapping entrepreneurship rate often produces counterintuitive results, and that is true of Scotland.⁷⁴ Thus, the Highlands and Islands emerge as the most entrepreneurial locations by this measure. This reflects the point made previously that entrepreneurship is a measure of economic structure rather than performance. The entrepreneurship rate is strongly affected by the number of workers locally, and hence the scale of employer businesses. Any particular location in this period required a basic number of businesses in order to function: to sell food, clothes and other consumer goods, and to provide personal and professional services. This means that locations with few businesses other than these and with few workers have high entrepreneurship rates because the denominator, the economically active population, is relatively small and the numerator, number of business proprietors, is comparatively large. In contrast, major urban areas or other sites of industry have low entrepreneurship rates because the large numbers of workers outweigh the larger number of employers. The high rates in Shetland in both years clearly demonstrates this issue. Despite these issues, the measure is useful in examining change over time.

Between 1851 and 1891 the entrepreneurship rates in the Highlands and Islands and the agricultural parts of the Borders increased, while they tended to remain the same or fall in the Central Belt. This reflected the fact that in the Central Belt population was increasing as was employment in heavy industry, a sector which tended to have a high worker to entrepreneur ratio which consequently drove down entrepreneurship rates in places such as

⁷⁴ Bennett et al. *The Age of Entrepreneurship*, pp. 221-8.

Glasgow.⁷⁵ In contrast, in the Highlands and Island population growth was either slow, or negative, and the worker population was declining as farming patterns changed. In the north-east of Scotland entrepreneurship rates fell between 1851 and 1911 but still remained high compared to rates in the Central Belt. This reflected the mixed nature of population change in this part of Scotland; where population stagnated or fell the entrepreneurship rate tended to increase, where population rose the rate fell.⁷⁶ However, it was not just driven by population change, shifts in the structure of industry also affected rates. Thus, in rural north-east Scotland the growing demand for meat in Scotland, England and abroad stimulated cattle farming which promoted rural entrepreneurship; elsewhere entrepreneurship was promoted by the growth of the fishing industry, such as in Rathven.⁷⁷

Figure 6. Entrepreneurship rates by continuous parish, 1851 and 1891.
Source: BBCE and I-CeM.

As with the discussion of sectoral and gender trends above, the geography of Scottish entrepreneurship is more revealing of the structure of the Scottish economy than of the distribution of especially enterprising individuals. As with Scotland's demography, the history of entrepreneurship reveals that there were 'multiple Scotlands' and these different Scotlands changed in contrasting ways and at different paces. However, as with the discussion of sectors, figure 6 reminds us that the economies outside of the Central Belt were complex and the variation between these places deserves further study.⁷⁸

Conclusion

⁷⁵ Rodger, 'Concentration and Fragmentation', p. 189.

⁷⁶ Anderson, *Scotland's Populations*, p. 57.

⁷⁷ Anderson, *Scotland's Populations*, pp. 72-3.

⁷⁸ R.H. Campbell, 'Too Much on the Highlands? A Plea for Change', *Scottish Economic and Social History*, 14, 1 (1994), pp. 58-76; Nenadic, 'Industrialization'.

The data discussed in this article allow us, for the first time, to examine the whole population of entrepreneurs in Scotland from the second half of the nineteenth century and to analyse developments by sector, gender and location. The absolute numbers and the proportion of the population running businesses increased between 1851 and 1901, falling somewhat afterwards. The rise was mainly in line with population growth, but at a slightly lower rate so that entrepreneurship rates as a percentage of the economically active slowly declined, although there was a slight recovery in 1911 (in contrast to England and Wales). The fall in absolute numbers after 1911 was mainly driven by a decrease in maker-dealers, especially female dressmakers, who faced competition from increasing mechanisation and the slow shift away from household and workshop production of clothes towards factory-based production. The overall pattern of change was similar to that experienced in England and Wales over the same timeframe, but Scotland had a consistently higher entrepreneurship rate than England and Wales. This is more likely to reflect not a cultural difference, but instead the different structure of the economy. In Scotland, generally lower wages, uneven population growth, the greater degree of remoteness of many locations, and the persistence of workshop-based manufacturing, maker-dealers, and other small-scale businesses in smaller and remote areas despite the growth of heavy industry, all tended to lead to a higher proportion of entrepreneurs in the population. In this regard, then, Scottish entrepreneurship rates were more a measure of economic structure and level of development rather than economic performance.

Female business proprietors were as common in Scotland as they were in England and Wales during this period, and at similar levels to those found in other countries. However, a smaller proportion of Scottish female entrepreneurs were employers than in England and Wales, and this suggests that their experience was, on average, more precarious than their counterparts south of the border. However, while own-account entrepreneurship was more

important to Scottish women, their occupational diversity was wider than women in England and Wales. Dressmaking was still their most common entrepreneurial activity, but it was less dominant than in England and Wales, while maker-dealing was less common in Scotland, and female manufacturing entrepreneurship more so.

The greater importance of manufacturing to Scottish women reminds us that the rise of heavy industry is not the only story to tell about the nineteenth-century Scottish economy. As Rodger noted from his previous work on the 1851 census, older industries, such as printing and furniture manufacture, were important throughout this period.⁷⁹ They underwent their own changes throughout the period, and any account of the Scottish economy which ignores this, or the substantial regional variation suggested in figure 6, will necessarily be partial. In addition, the full population coverage of the census also demonstrates the importance of many other industries that have had less historical analysis. Scottish entrepreneurship in retailing, personal services, transport, professional and business services, finance and commerce, agricultural produce, food sales, and manufacturing all experienced fairly continuous growth in numbers over the period after 1851. Only maker-dealing and mining showed any evidence of aggregate decline in entrepreneur numbers, while construction was volatile.

The diverse stories of these different sectors, and the complex geographical picture of the Scottish economy that this paper has begun to unravel, clearly merit more detailed further research. This paper opens the way to such analysis, and the deposit of the database of the population of entrepreneurs identified in the 1851-1901 censuses identified in the BBCE provides the means for a range of new research questions to be investigated. It is hoped that this paper encourages others to develop detailed case studies of specific industries at a more detailed level, or to examine local case studies. This paper, and the BBCE data more widely,

⁷⁹ Rodger, 'Concentration and Fragmentation', pp. 178, 191.

now provide a context within which specialist studies can be assessed for their generality or unique characteristics. In addition, the alignment of the early census data with that from the later censuses and the estimates made for 1911, although subject to unavoidable estimation uncertainties, nevertheless provide for the first time a continuous series for the whole period 1851-1911. This offers a foundation for carrying forward the analysis here into the modern period. The form of the census question introduced in 1891, to gather information on the employment status of each individual - as employer, own account or worker – is essentially the same as subsequent census questions up to the 2011 census and projected for use in 2021. This makes available a continuous series on census information on self-employment, differentiated between employers and own account, for 1851 until the present. It also forms the basis for taking backwards analysis of trends by using the estimates of the 1851-1911 entrepreneurs to earlier periods, which in turn provide a fuller basis to develop a wider understanding the later stages of the industrial revolution in Scotland.

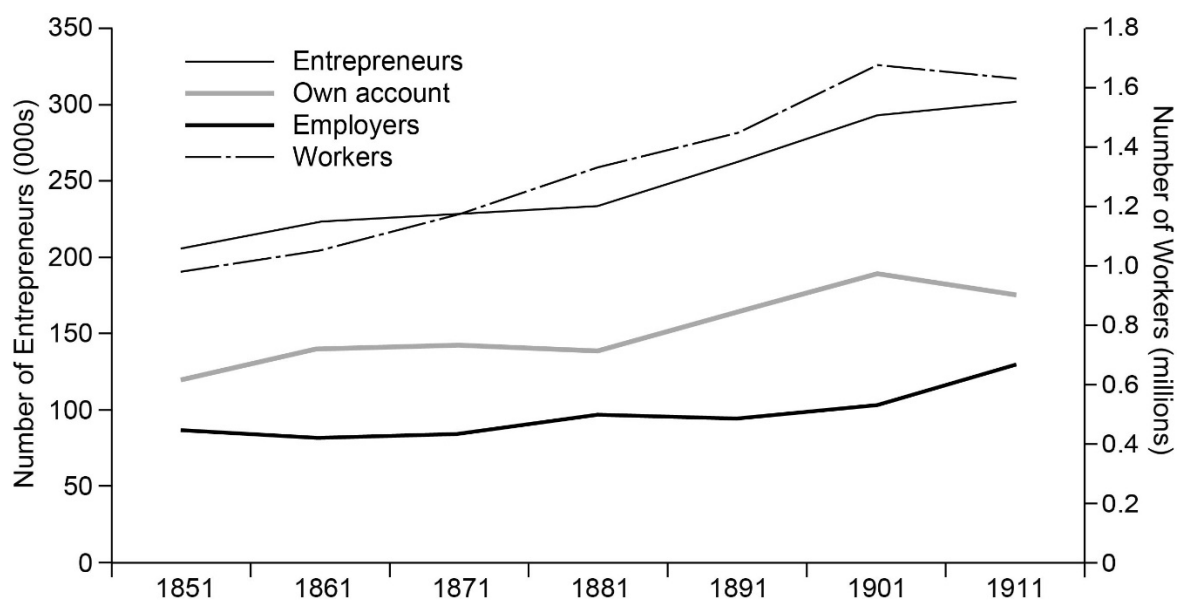


Figure 1 Number of employers, own account and workers, 1851-1911.
Source: BBCE and I-CeM.

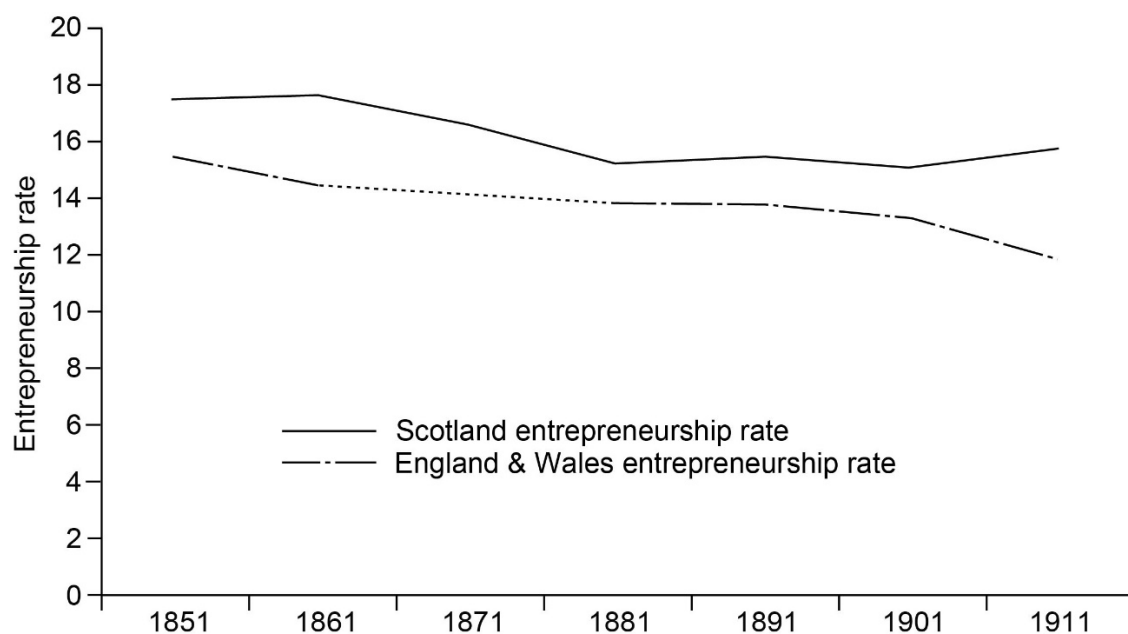


Figure 2 Entrepreneurship rate, Scotland and England and Wales, 1851-1911.
Source: BBCE and I-CeM.

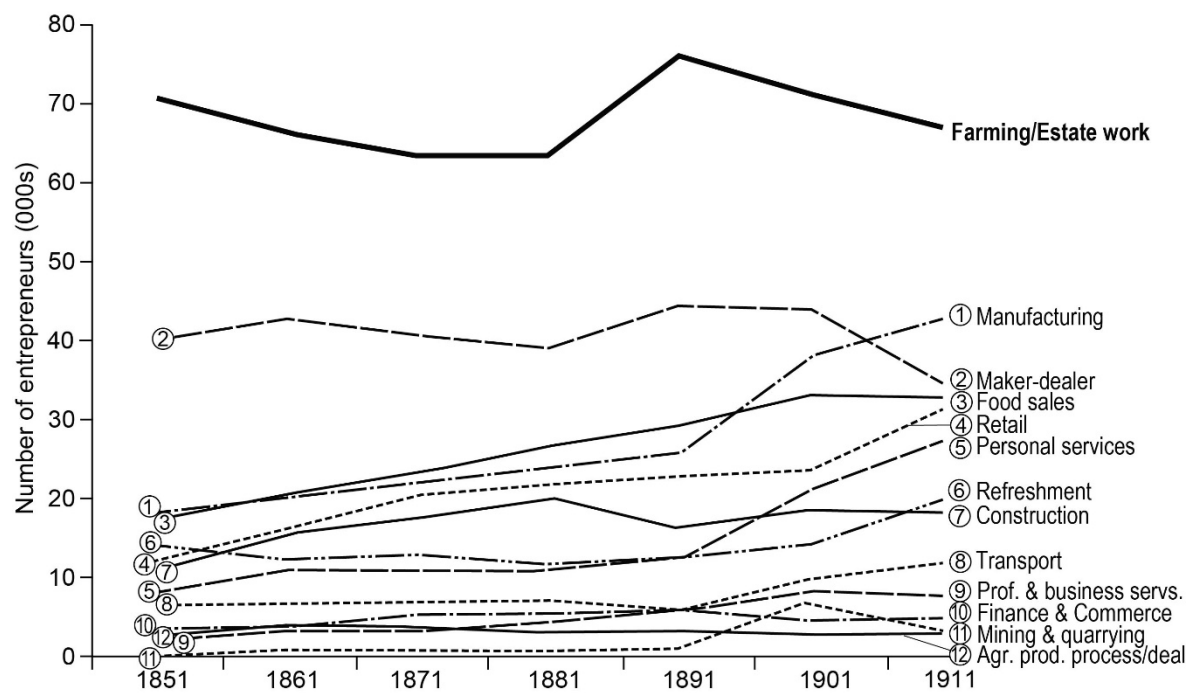


Figure 3 Number of entrepreneurs by sector, 1851-1911.

Source: BBCE and I-CeM.

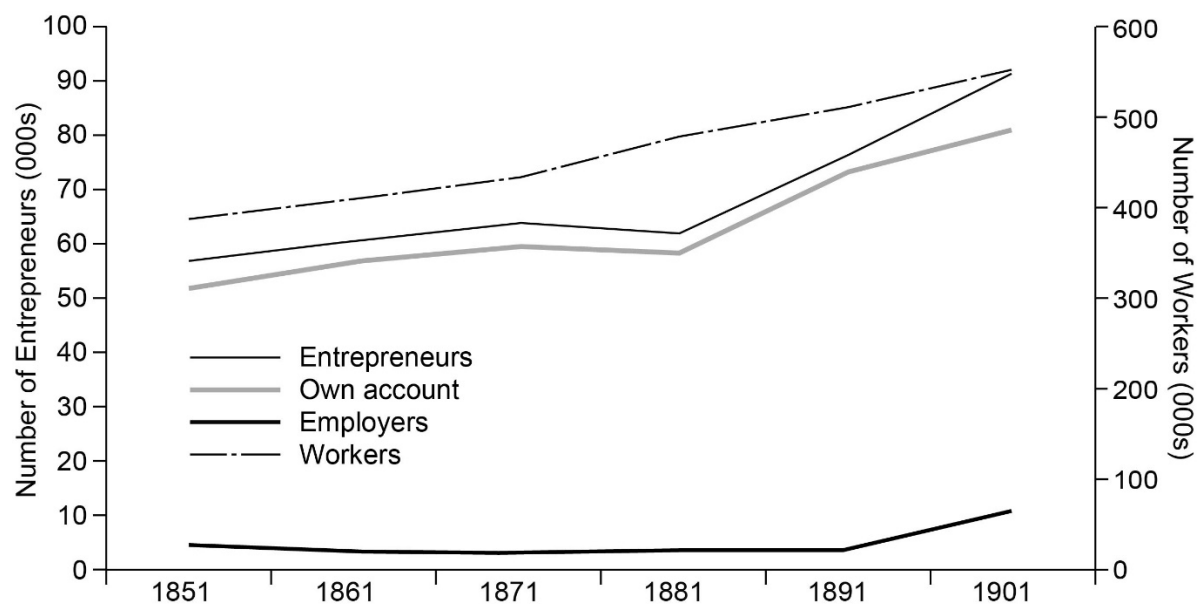


Figure 4 Female employers, own account and workers, 1851-1901.

Source: BBCE and I-CeM.

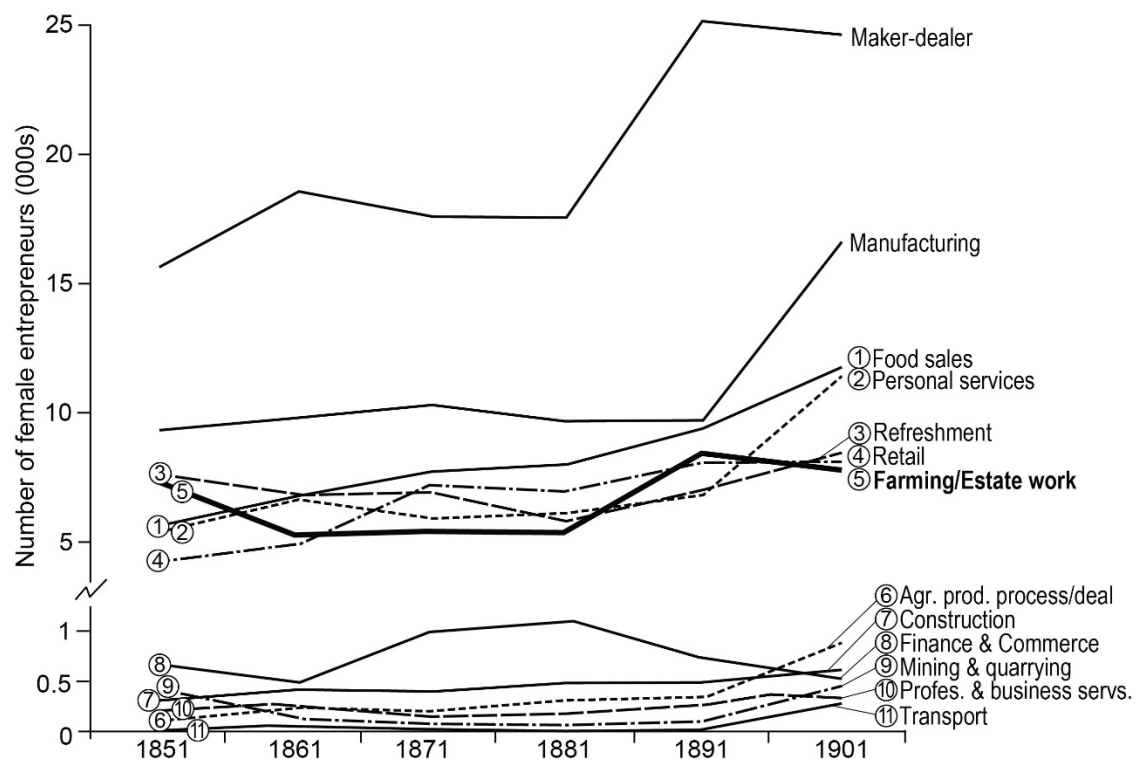


Figure 5 Number of female entrepreneurs by sector, 1851-1901.

Source: BBCE and I-CeM.

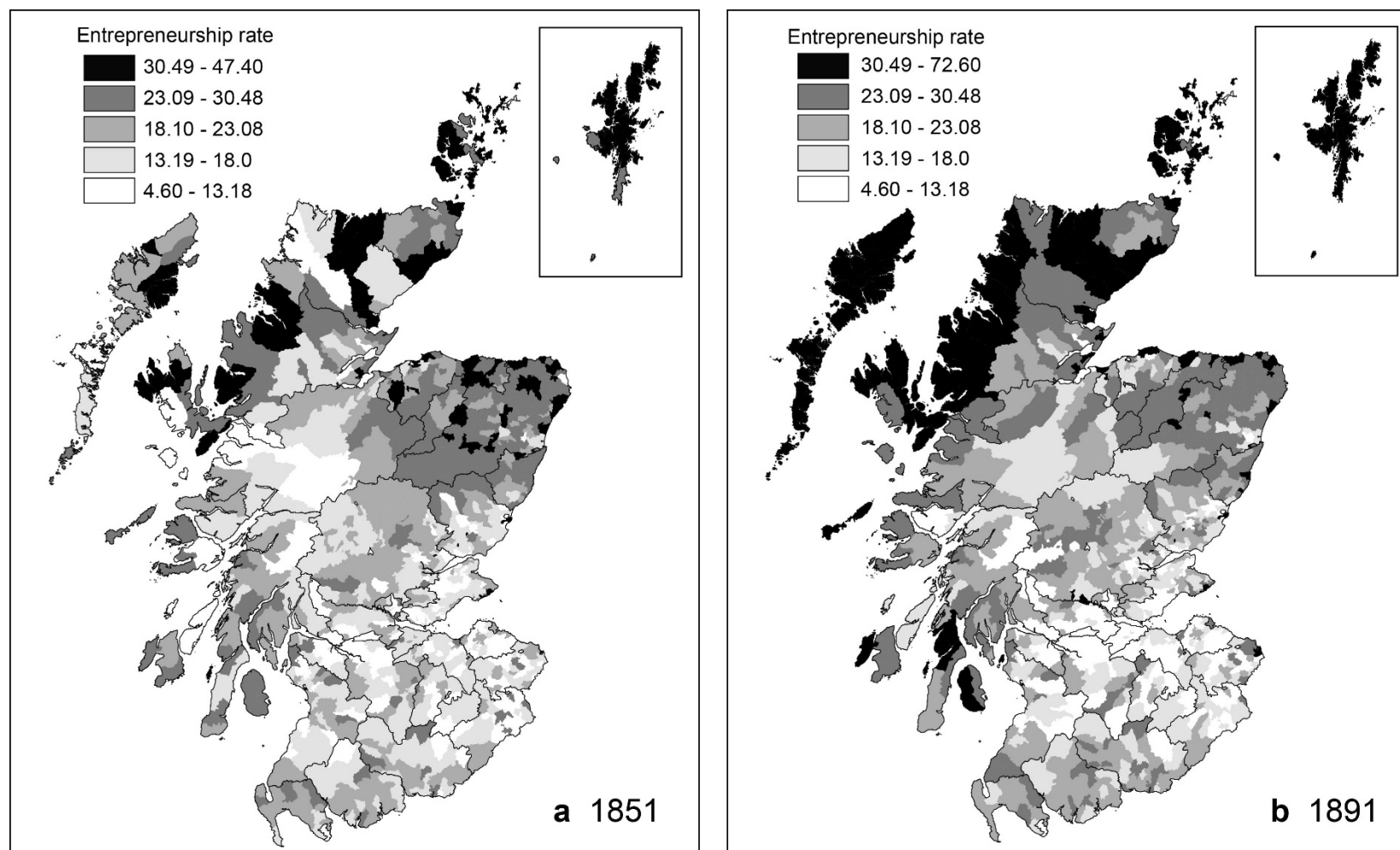


Figure 6 Entrepreneurship rates by continuous parish, 1851 and 1891.
Source: BBCE and I-CeM.